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Project Summary
Belcher Islands
Diamond Drilling Program

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March 2011

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Project Location

Claims and IOL Lands

The mineral claims covered by the application are (Figure 1):

Claim Name	Tag Num	NTS Sheet
CO1	K14661	34D/11
CO2	K14662	34D/11
CO3	K14663	34D/06 &D/11
CO4	K14664	34D/06 &D/11
CO5	K14665	34D/06
CO6	K14666	34D/06
CO7	K14667	34D/06
CO8	K14668	34D/06
CO9	K14669	34D/06
CO10	K14670	34D/06 & D/07
CO11	K14671	34D/06
CO12	K14672	34D/06
CO13	K14673	34D/06
CO14	K14674	34D/06
CO15	K14675	34D/06
CO16	K14676	34D/06
CO17	K14677	34D/06
CO18	K14678	34D/06 & D/07
CO19	K14679	34D/06 & D/07

The following IOL Lands covered by this application are:

Haig Inlet IOL Land

Point	Longitude	Latitude	Comment
A	79° 9' 45" W	56° 16' 00" N	
B	79° 7' 15" W	56° 18' 30" N	
C	79° 6' 22" W	56° 20' 20.10" N	On IOL boarder
D	79° 3' 11.2" W	56° 20' 42.6" N	On IOL boarder
E	79° 3' 30" W	56° 19' 30" N	
F	79° 4' 0" W	56° 18' 30" N	
G	79° 4' 45" W	56° 17' 0" N	
H	79° 5' 0" W	56° 16' 0" N	

Location of any proposed Camp

The location of the camp is shown in Figures 1. The proposed camp location is approximately 22 km southeast of Sanikiluaq at the head of Haig Inlet. The camp will be located on a flat area at coordinates 56° 20’ 18.8”N, 79° 04’ 03.7W (NTS 34d-44a) This camp is located on IOL lands and licenced under Q10LC020.

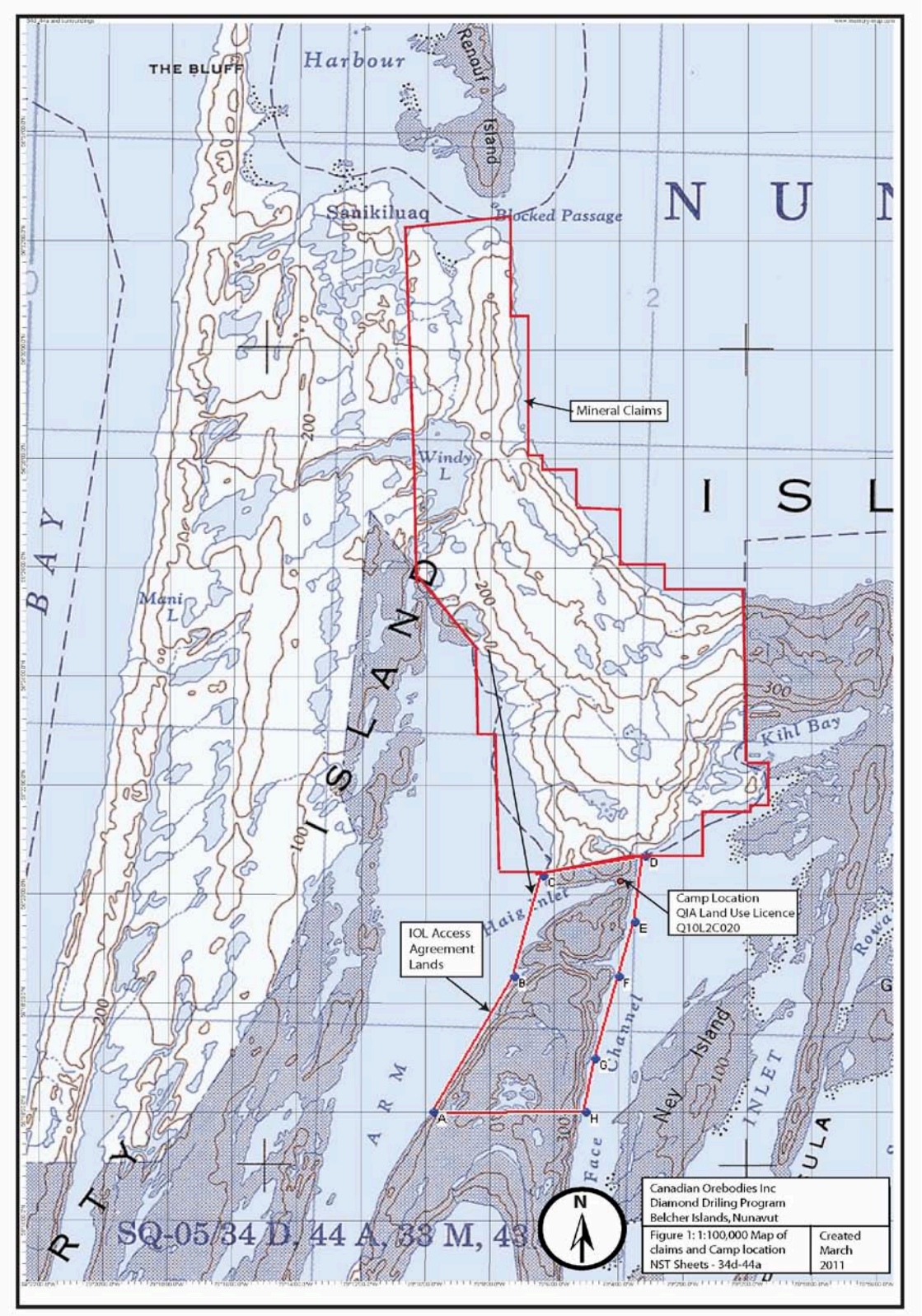
Application Boundaries

The Boundaries of the project area are:

Haig Inlet Area

NW Corner	56^{o} 32’ 57.9” N	79^{o} 12’ 20.4”W
SE Corner	56^{o} 15’ 58.2” N	79^{o} 00’ 23.4”W

Figure 1 Here



Project Description

Regulatory Requirements

The acts, regulations and guidelines that apply to project activities are:

1. Territorial Lands Act and Regulations
2. Northwest Territories Waters Act and Regulations
3. Nunavut Land Claims Agreement

The approvals, permits and licenses required and the authorizing agency are:

Licence Permit	**Activity**	**Issuing Authority**
Water Use License	Camp and Diamond Drilling	Nunavut Water Board
Land Use Permit	Diamond Drilling on Mineral Claims	INAC
Screening	Camp and Diamond Drilling	Nunavut Impact Review Board
Land Use Licence	Camp and Diamond Drilling on IOL Lands	QIA – Land Use Licence Q10L2C020 (Expiry March 1, 2012

Project Activities

Table 2 summarizes the yearly activities included in this project.

TABLE 2: Summary of development activities

ACTIVITY	**2011/ 2012**	**2012/2013**
Diamond Drilling (m)	15,000	15,000
Access	Air	Air
Fuel (l) Total for Season	60,000	60,000
Operation	Summer only 90 day maximum	Summer only 90 day maximum
Temporary Camp	30 persons for 90days/year	30 persons for 90days/year
Total Water Use $M^{3.}$/ year	Drilling - 720 $M^{3.}$ / y Camp – 135 $M^{3.}$/ y	Drilling - 720 $M^{3.}$/ y Camp – 135 $M^{3.}$/ y

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Access

Materials and supplies for the project will be transported to Sanikiluaq. From the community the material and supplies will be transported to the project area by helicopter.

Movement of the crews from the camp to the drill sites will be by helicopter.

Movement of the diamond drills will be by helicopter.

Helicopter flight plans will maintain a minimum elevation of 300 m. to avoid disturbance of wildlife.

Camp Facilities

The camp will be located at an old camp site at the head of Haig Inlet. The camp will consist of 16 Weatherhaven style insulated tents, which will house accommodations, mess tent, kitchen, dry and processing of geological samples and equipment maintenance. All tents will be heated with diesel fired space heaters and supplied with electricity from a central 50 kw diesel generator with a 400 liter day tank.

Waste Management

Garbage and waste materials from the camp will be collected daily. Garbage and waste materials (oil, containers, etc.) generated at the drill sites will be collected daily and returned to the camp. The garbage and waste materials will be sorted into combustible and non-combustible material.

Combustible material will be disposed at in the camp A400(A) Inciner8 two stage incinerator. The information sheet on the incinerator is found in Appendix A. Non-combustible material and oils will be flown to an approved disposal site on a weekly basis. Any residue from the incinerator will be returned be flown to an approved landfill for disposal.

Sewage and Grey water

Sewage disposal will be by pit privies located at least 30 meters from any water body and the camp tents.

Camp grey water will be disposed of in a purpose built sump located at least 50 meters from the camp and any water body.

Domestic Water Supply

The estimated water usage for the camp is 1.5 cubic meters per day. The water will be pumped from Kasegalik Lake to a holding tank at the kitchen and dry tents. From this holding tank water will be distributed to facilities in the camp. Treatment of the domestic

water will be by Trojan UV Max system. The specifications for this system can be found in Appendix B.

Fuel Storage

Fuel will be flown to the camp in 205 l drums by helicopter. The drums will be stored in a central storage area at the Haig Inlet camp site which has been equipped with an impermeable membrane. It is anticipated that no more that 48 barrels (10,000 liters) will be stored at the camp site at any one time. The breakdown of the fuel types for the project is given in Table 3.

Table 3: estimated fuel usage for the project.

Fuel	**Number of Containers and Capacity of Containers**	**Total Amount of Fuel (in Litres)**	**Total fuel per year (l)**
Diesel	400	205 litre barrels	82,000
Gasoline	10	205 litre barrels	2,000
Aviation fuel	400	205 litre barrels	82,000
Propane	20 tanks	100 lb tanks	
Other			

The diesel for the drill rigs will be moved from the storage area to the drill sites as required. Each drill will have a minimum of two (2) days fuel on site (approximately 4 barrels). The barrels will be stored on an impermeable membrane at least 30 meters from any water body in the area.

Helicopters will only be refueled at the camp using electric pumps and pumping from 205 l barrels.

Diamond Drilling

It is proposed that 15,000 m of diamond drilling will be conducted per year over the two year program for a total of 30,000 meters of drilling. The drills will be Boyle Model 37 Surface Drills weighing approximately 3000 kg (or similar models). They will be moved from site to site by helicopter. All drilling will be land based. A typical drill setup is shown in Figure 2.

The exact location of the drill sites will be chosen on site and be provided to the regulatory authorities when chosen. In choosing the sites Canadian Orebodies Inc. will use the conditions of the permits and licence to guide their decisions. The drill targets are be with in the claim areas and IOL lands identified on Figure 1, these general areas have been chosen based on previous geophysical work in the claim and IOL lands.

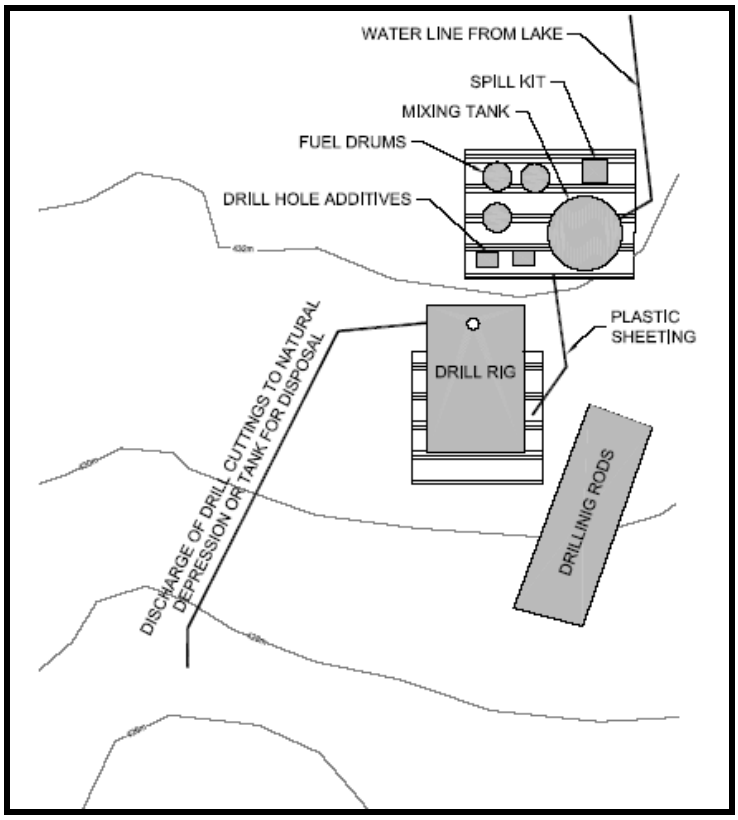
Fuel will be moved to each drill site in 205 liter barrels by helicopter. Fuel will be moved as required with approximately two days supply (4 barrels) being maintained on site.

Drill core will be moved from each drill to the core facility at the camp by helicopter at the end of each shift. The core will be stored in core racks near the camp.

Drills will be operated 24 hours per day, in two shifts of 12 hours each.

To counteract freezing in the drill holes calcium chloride (drill salt) will be added to the drill water. This will only be done when necessary. The MSDS sheets for calcium chloride can be found in Appendix C. Calcium chloride will be brought to the project site on an as needed basis. When on site it will be stored in a weather tight and secured shelter until it is used. The primary storage area will be at the Hope Lake airstrip near the fuel storage area. The drill salt will be moved to the drill sites from the camp as needed. The maximum amount of drill salt stored will be 1000 kg. The drill salt is transported in 20 kg bags.

Figure 2: Typical Diamond Drill Layout



Diamond Drill Water Use

The maximum water use per diamond drill is estimated to be 2.6 m^3/day. With three drills operating daily water use will be approximately 8 m^3/day. The water use depends on the nature of the rock fracturing in the area of the drill. Highly fractured rock results in more water loss down hole and therefore less ability to recycle water. The water usage figures provided above are considered to be maximum usage.

Drill water will be obtained from lakes and creeks near the drill sites. All water intakes will comply with **Freshwater Intake End-of-Pipe Fish Screen Guideline, 1995 (Appendix D).**

Drill Cuttings and Water

Drill cuttings and water will be directed to a natural depression with no flow to the surrounding environment. The cuttings will settle and water will evaporate. These areas will then be restored during the open water season.

Drill Hole Abandonment

At the end of the program the drill will be dismantled into its main components as per the drilling contractor procedure. The drill will then be demobilized to the Haig Inlet camp site and then removed from the site. At the completion of each hole the drill sites will be inspected for soil contamination. Any remaining waste will be taken to the staging area at the camp and incinerated (if possible) or flown out to an approved land fill for disposal. Individual drill sites will be restored immediately after the drill has been moved to the next site. The restoration of the individual drill sites will include:

- Leveling of sumps
- Removal or treatment of oil contaminated soil
- Removal of all drill associated equipment and blocks
- Leveling of any disturbed soil

Photos of all individual drill sites prior to drilling will be taken. Monitoring will be done during occupancy and photos taken. Once the site is restored, it will again be documented with photos. Soil contaminated by hydrocarbons and unnoticed before abandonment will be treated as per the spill contingency plan.

Existing Environment

The environment of the region has been described by Ecological Stratification Working Group. 1995. as the Southern Arctic Ecozone and the Belcher Islands Ecoregion. These descriptions are found below.

SOUTHERN ARCTIC ECOZONE

This ecozone is split by Hudson Bay into east and west portions with over 80% of the land area in the western portion. It covers northern mainland Canada from the Richardson Mountains in the Yukon to Ungava Bay in northern Quebec. Originally viewed as "barren lands" by the first European visitors, spring and summer bring a sudden greening of the landscape. Of the three arctic ecozones, this one has the most extensive vegetative cover and highest diversity of species.

Climate This ecozone experiences long, cold winters, and short, cool summers. Mean annual temperature ranges from -ll° C in the northwest to -7°C in Quebec. Mean summer temperatures range from 4°C to 6°C, producing a short growing season with up to 750 growing degree-days, and enhanced by long periods of daylight. The mean winter temperature ranges from -28°C in the northwest to -17.5°C in Quebec. The mean annual precipitation varies from 200 mm in the northwest to 500 mm in northern Quebec.

Vegetation This ecozone represents a major area of vegetative transition between the taiga forest to the south and the treeless arctic tundra to the north. It is characterized by dwarf shrubs that decrease in size to the north. Typical shrubs include dwarf birch, willow, and heath species; these are commonly mixed with various herbs and lichens. Major river valleys, such as the Thelon River, can support scattered clumps of stunted spruce trees. Wetlands are common in the low-lying areas, and mainly support sedge-moss vegetation.

Landforms and Soils Underlain for the most part by Precambrian granitic bedrock, the terrain consists largely of broadly rolling uplands and lowlands. Much of it is mantled by discontinuous morainal deposits, except near the coasts, where fine-textured marine sediments cover the surface. Throughout the ecozone, there are exposures of bedrock. Cretaceous shales covered by thick glacial drift deposits characterize its westernmost section from Great Bear Lake to the Firth River on the Yukon coast. Strung out across the landscape are long, sinuous eskers reaching lengths of up to 100 km in places. A small part of the ecozone west of the Firth River is unglaciated. The undulating landscape is studded with innumerable lakes, ponds and wetlands. Cryosols are the dominant soils, and are underlain by continuous permafrost with active (thaw) layers that are usually moist or wet throughout the summer.

Wildlife A wide variety of mammals can be found living in this ecozone. It includes the major summer range and calving grounds for Canada's largest caribou herds, the barren-ground caribou in the west and the woodland caribou in the east. Other mammals include grizzly bear, black bear in northern Quebec, polar bear in coastal areas, wolf, moose, arctic ground squirrel, and brown lemming. This ecozone is also a major breeding and nesting ground for a variety of migratory birds. Representative species include the yellow-billed, arctic, and red-throated loon, whistling swan, snow goose, oldsquaw, gyrfalcon, willow and rock ptarmigan, northern phalarope, parasitic jaeger, snowy owl, hoary redpoll, and snow bunting. In the marine environment, typical species include walrus, seal, beluga whale, and narwhal.

Human Activities This ecozone is sparsely populated. The total population of approximately 10,300 is scattered in 17 communities, including Tuktoyaktuk, Paulatuk, and Coppermine in the west, Chesterfield Inlet, Rankin Inlet, and Eskimo Point on the coast of Hudson Bay, and Kangirsuk on Ungava Bay. Rankin Inlet is the largest centre with a population of 1706. Much of the local economy is based on subsistence hunting, trapping, and fishing. Inuit form over 80% of the population. The mineral and hydrocarbon potential of the zone has also led to increased exploration and some extraction activity. Construction, some tourism, and government services are the other principal activities.

BELCHER ISLANDS

This ecoregion covers the Belcher Islands which occur off the coast of Quebec in Hudson Bay. The mean annual temperature is approximately -5.5°C with a summer mean of 5.5°C and a winter mean of -18.5°C. The mean annual precipitation is approximately 500 mm. This ecoregion is classified as having a high subarctic ecoclimate. The ecoregion falls along the latitudinal limits of tree growth. Open, very stunted stands of black spruce and tamarack with secondary quantities of white spruce and ground cover of dwarf birch, willow, ericaceous shrubs, cottongrass, lichen, and moss, are predominant. Poorly drained sites usually support tussocks of sedge, cottongrass, and sphagnum moss. Tall shrub tundra, usually consisting of dwarf birch and willow, is also common. The ecoregion is formed by a range of hills projecting through the waters of Hudson Bay. The hills are composed of resistant Proterozoic sedimentary and volcanic rocks elaborately folded into long, curved, hairpin-shaped structures. Higher summits reach about 122 m asl in elevation and are truncated by an old erosion surface. Bedrock outcrops are common, and Turbic and Static Cryosolic soils developed on level to undulating morainal and marine deposits occur in the ecoregion. Permafrost is extensive and discontinuous with low to no ice content. Characteristic wildlife includes caribou, moose, black and polar bear, wolf, red fox, snowshoe hare, beaver, raven, osprey, shorebirds, seabirds, waterfowl, seal, walrus, and whale. Land uses include hunting and fishing. The major community of the Belcher Islands is Sanikiluaq. The population of the ecoregion is approximately 500.

Archaeology Resources

Existing data on archaeology sites in the area has been requested from the Government of Nunavut, Department of Culture, Language, Elders and Youth and will be used by GPM to assist in the selection of drill sites. GPM will also comply with the *Nunavut Archaeological and Palaeontological Sites Regulations* where they apply to this project.

Potential Environmental Effects and Mitigation

Noise

There will be an increase in ambient noise levels associated with camp facilities, drilling activities and fixed wing and helicopter operations. These increased noise levels are typically short in duration and limited to small areas. The level of activity will however be low with three drills. Any increase in this level of activity would be addressed in an application for an amendment to the land use permit.

Past and ongoing operations in the area have not created an acoustic impact on wildlife. These operations are not expected to significantly change the existing situation. Periods of more extensive drilling activity, which could disturb wildlife, will be scheduled to minimize the impact on wildlife. For example, if large concentrations of migrating caribou arrive on site during the operations the operating schedule will be adjusted to avoid impacts on their migration.

Water Quality

No discharge of water of water from the camp or the drilling program will enter surface waters. Water used in the drilling process will be collected or channeled away from lakes and watercourses. Disposal of drill cuttings in natural catchments has the potential to drain excess water. These excess waters are not expected to reach existing lakes or watercourses, however, they will be closely monitored and water flow diverted or impounded if any potential discharge to lakes or watercourses is identified.

Sewage will be contained within the pit privies and grey water will be contained in sumps. Both these facilities will be at least 50 meters from water courses and discharge will not occur.

Groundwater Disturbance

The project will take place in a zone of continuous permafrost; consequently groundwater is restricted to deeper parts of the stratigraphy. Geologic units in the area are steeply dipping and this drilling program is designed to intersect these units at an acute angle. This should minimize the potential for artesian water escaping the drill holes. In the event that artesian waters are encountered in a drill hole, abandonment procedures will include plugging off the ground water course and eliminating the discharge of ground water from the drill hole collar.

Wildlife Disturbance

Impact on wildlife in the area are expected to be minimal and of a limited duration. Waste management is an effective tool to minimize encounters with wildlife and GMP enforces a strict regiment to dispose of wastes. Fixed wing and helicopter operators are trained to minimize encounters with wildlife. Staff and contractors on the Project will receive training to reduce wildlife disturbance and ensure safety during drilling operations. Staff members will not be permitted to hunt or fish from the camp.

Vegetation

Drilling operations at the Project are not anticipated to create significant long-term impacts on vegetation. Drill and campsite preparation will be with hand tools creating a minimal disturbance to the natural vegetation. In addition the camp site has been occupied in the past. It is anticipated that this disturbance will be much less significant than mechanical site preparation. After abandoning a site, clean-up work will be designed to promote the restoration of the site compatible with the original undisturbed conditions. A log of all activities at each site will be maintained. This will include a photographic record of the site before and after drilling and a record of the activity during drilling (please refer to the A&R Plan for the project).

Fish Habitat

There is little potential to impact fish habitat from the proposed program. Drilling operations will not use toxic additives and drill fluids will not be discharged into lakes or watercourses. Careful design of sites, placement of petroleum products on sites and limited supplies on drill sites will minimize the potential for contamination from fuels. In conjunction with an effective spill contingency plan and an active training program, drilling activities will have little impact on fish habitat.

Archaeological Impacts

The bulk of the archaeological sites in the area are found on eskers landforms. These areas are not anticipated to be impacted by the proposed project. In the drilling program there will be latitude to adjust drill sites that could conflict with archaeological sites and GPM is committed to minimizing it's impact through re-locating sites where required.

Permafrost

No significant or long-term impact on permafrost is anticipated from the drilling program or the camp. Drill holes penetrating the permafrost layer may degrade the active layer in a local area. After abandonment of the site, all conditions that would inhibit the reversal of this degradation will be eliminated.

Air Quality

The scale of the proposed program at the Project will not significantly impact air quality in the region.

Cumulative Impacts

The potential impacts resulting from the Proposal within a regional context will be minimal. The scope and scale of the program is limited and impacts on potential downstream users will be minimized or eliminated through the implementation of a sound environmental management program.

Literature Cited

Ecological Stratification Working Group. 1995. A National Ecological Framework for Canada. Agriculture and Agri-Food Canada, Research Branch, Centre for Land and Biological Resources Research and Environment Canada, State of the Environment Directorate, Ecozone Analysis Branch, Ottawa/Hull. Report and national map at 1:7500 000 scale.

Appendix A
Specifications of Incinerator Model A100(A)

Inciner8 Ltd

Model A400 Waste Incinerator

Efficient, clean and durable

Features overview

- Designed for economical performance.
- Low profile for easy loading and ash removal
- Refractory lined to retain heat for efficiency.
- Available with LP, Natural gas or fuel oil burner
- Optional secondary burner where needed.
- Optional secondary chamber to produce 2 second gas retention time at 850 deg C

Ease of use

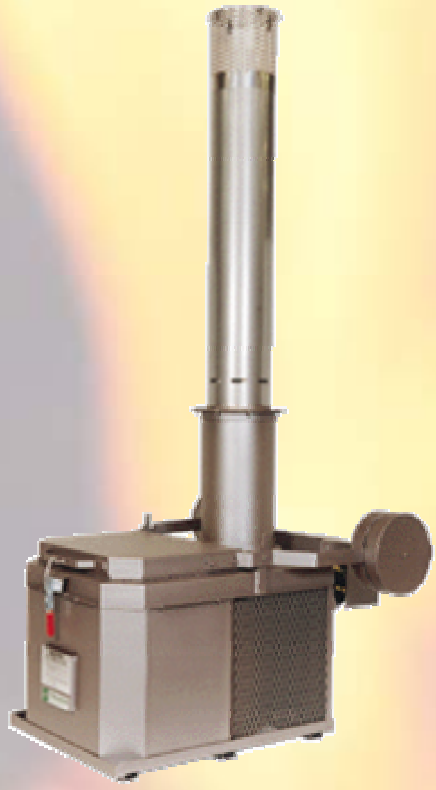
- Auto ignition. No pilots to light. Set the timer and walk away.
- Single burner reduces maintenance cost.
- Built-in skid facilitates placement.

Fuel efficiency

- Rapid incineration means low fuel consumption.
- Higher burn rate than smaller models.
- Thick refractory lining in main chamber retains heat, increasing efficiency.

Quality built to last

- Heat resistant aluminized steel.
- Stainless steel stack.
- Backed by years of incineration experience.



Standard Model A400

View of primary chamber during operation

The benefits of incineration . . .

Hygienic

Waste can be destroyed as fast as it accumulates. Nothing is left to spread disease or to attract rodents and flies.

Convenient

Fill the chamber and turn on the burner. No watching required since timer automatically shuts down burner. Alternative methods frequently require more time to manage and maintain.

Thorough

Leaves only sterile white ash and brittle bone fragments. Reduces animal carcasses to approximately 5% of sterile residue.

CE **BS EN 746-2:1997**

Inciner8 Ltd

Model A400(A)

The Model A400 is the mid size unit that we produce in the range of incinerators burning less than 50kg per hour. It is available in different variations, with the most popular being the UK DEFRA approved Model A400(A), which utilises a secondary chamber providing a gas retention time of 2 seconds at 850 degrees Centigrade and maintains this throughout the burn cycle. This makes the Model A400 (A) version ideal for burning animal carcasses in accordance with the animal-by-product act.

The unit is unique in that it uses a dual fired burner motor rather than two separate burner units, this not only is more efficient but provides low maintenance and fuel costs.
The unit can be preset to burn for the required time and has numerous safety cut off features.
The burners come with a unique post burn cool down system, which allows for quicker cool down before restocking.

The model A400 is a top loading design which also benefits from the large loading door allowing easy access and charging. It also has skids to allow easy handling with a forklift.

DEFRA Approved Unit A400(A)

Specifications

CHARGING RATE - Pathological: Up to 200 kg per charge of typical pathological waste . Batch loaded allowing complete burn-out in approximately 4.5 hours, cool down and ash removal before reloading.
Burn rate: Approximately 45kg/hr.

Model A400

Chamber capacity - 200 kg
Chamber volume (approx.) .36 m3
Chamber size (outside)
Width 91 cm Height 86cm Length 122 cm
Door opening 56 x 74cm
Height to door 77 cm
Height to top of stack 3.3 m
Weight - 896 Kgs
Suggested slab size (l x w x thick) 1.8 m x 2.4 m x 10cm
STACK
Stainless Steel Stack height 1.52 m 30.5 diameter, 16 gauge (1.52 mm) stainless steel
GENERAL
Electrical service Standard—115 volt, 60 HZ, 20 amp. Also available—220 volt, 50 HZ, 10 amp

Model A400(A)

Chamber capacity - 200 kg
Chamber volume (approx.) .36 m3
Chamber size (outside)
Width 91 cm Height 86 cm Length 122 cm
Door opening 56 x 74cm
Height to door 77 cm
Height to top of stack 3.3 m
Suggested slab size (l x w x thick) 1.8 m x 2.4 m x 10cm
Secondary Chamber Volume .52 cubic metres
2 second gas retention time at 850 deg. C
Temperature monitor. Dual fired burner available in LPG, natural gas, Diesel or kerosene.
STACK
Stainless Steel Stack height 1.52 m, 30.5 diameter, 16 gauge (1.52 mm) stainless steel
GENERAL
Electrical service Standard—115 volt, 60 HZ, 20 amp. Also available—220 volt, 50 HZ, 10 amp

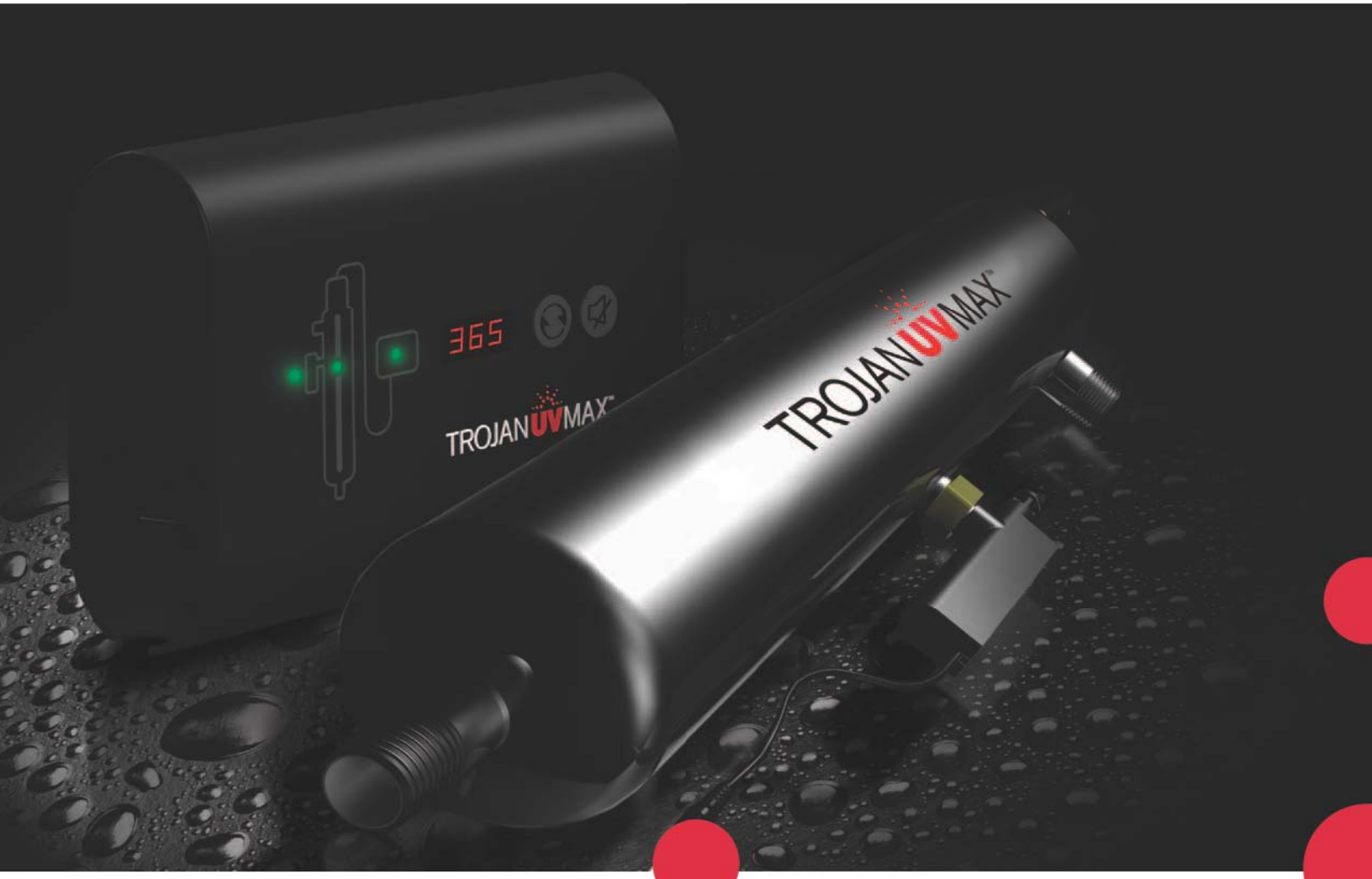
Dealer

Inciner 8 Ltd, Unit 9, Shakespeare House,
37-39 Shakespeare Street, Southport, PR8 5AB
Tel +44 (0) 1704548508 Fax +44 (0) 1704 542461
Email : info@inciner8.com Web : www.inciner8.com

Appendix B
Specifications for Trojan UV Max waster Treatment System

TROJANUVMAX™

RESIDENTIAL AND COMMERCIAL APPLICATIONS



WHO IS VIQUA - a Trojan Technologies Company?

VIQUA is a leading water treatment technology company focused on providing our customers – residential and light commercial – confidence in their water. Offering a complete solution package including UV disinfection, water filtration, softeners and ozone products.

WHAT IS UV?

Ultraviolet (UV) light is at the invisible, violet end of the light spectrum. The water treatment industry uses a high-powered form of UV light called UV-C or "germicidal UV" to disinfect water.

WHO USES UV DISINFECTION SYSTEMS?

For more than 30 years, institutions, consumers and businesses have relied on VIQUA's environmentally friendly UV technology to disinfect their water supplies. Top candidates for UV disinfection systems include:

- Rural homes and cottages
- Nursing homes
- Hospitals
- Schools
- Hotels
- Restaurants
- Resorts and holiday camps
- Community water systems

TROJAN UVMAX™

Ultraviolet (UV) Light is the Right Choice for Water Purification

Instills Water Confidence

Owners of a TrojanUVMax™ can drink with confidence knowing 99.99% of illness-causing microorganisms, including *E. coli, Cryptosporidium* and *Giardia* are destroyed, supplying safe water to every tap.

Environmentally-friendly and Chemical Free

UV water purification is a natural process that adds no chemicals and does not affect the taste or odor of water. Other methods, such as those that use chlorine, may create harmful chemicals that have been linked with serious illnesses, such as cancer.

Trouble-free Maintenance

Maintenance is simple and can be completed in minutes - without tools. It's as easy as replacing the UV lamp once a year and periodically cleaning the sleeve.

TYPICAL **INSTALLATION**

INSTALLATION AND OPERATION REQUIREMENTS

- UV transmittance must be greater than 75%. Through your dealer, Trojan offers a free water testing service for hardness, iron and UV transmittance.
- A 5 micron (nominal) sediment filter must be installed before the UV system.
- Lamps must be replaced after 1 year of operation.
- Sleeve and UV sensor window will require regular cleaning. See Owner's Manual for details.

Safety Cap and Special Lamp Plug

Our safety cap prevents children from accessing the lamp or electrical components. The special lamp plug ensures that no one can power the UV lamp if it's not in the UV chamber.

Test of Sensor Operation

With the push of a button you can confirm the proper operation of the sensor.

Unique Lamp/ Sleeve Assembly

Lamps and sleeves are assembled together for ease of handling. They can be replaced separately, in minutes and without tools.

Reference Card

The reference card outlines the most important system functions and maintenance for your quick, on-the-spot questions.

Helpful Lamp Replacement Reminder

The Lamp timer display starts at **365** and counts down the days to annual lamp replacement.

Mute Button

If a warning alarm sounds, simply press this button to silence the alarm.

Confidence in Proper System Operation

Indicator lights show the status of system components. Warning lights appear when system maintenance is required.

Lamp Timer Reset Button

Once annual lamp replacement is completed, press this button to restart the Lamp timer.

1. *Model A power supply*
2. *Model B4 and C4 power supply*

MODEL	A	B4	C4	D4/D4 Plus	E4/E4 Plus	F4/F4 Plus
*Flow Rates	0-3 GPM (0-11 LPM)	3-6 GPM (11-23 LPM)	7-16 GPM (26-60 LPM)	7-16 GPM (26-60 LPM)	12-29 GPM (45-110 LPM)	20-45 GPM (76-170 LPM)
No-tools maintenance	✓	✓	✓	✓	✓	✓
Constant current electronic power supply	✓	✓	✓	✓	✓	✓
Safety cap & special lamp plug	Safety cap only	✓	✓	✓	✓	✓
Lamp operation indicator	✓	✓	✓	✓	✓	✓
Power supply operation indicator	✓	✓	✓	✓	✓	✓
Sensor operation indicator	--	--	--	D4 Plus	E4 Plus	F4 Plus
Sensor with diagnostic test	--	--	--	D4 Plus	E4 Plus	F4 Plus
Reference card	--	✓	✓	✓	✓	✓
Lamp timer display	--	--	--	✓	✓	✓
Lamp timer reset button	--	--	--	✓	✓	✓
Mute button	--	--	--	✓	✓	✓
Solenoid valve				Optional	Optional	Optional
External control relay				Optional	Optional	Optional
Chamber material	304 SST	304 SST	304 SST	304 SST	316 SST	316 SST
Inlet/Outlet	3/8" FNPT	3/4" NPT	3/4" NPT	3/4" NPT	1" NPT	1" NPT
ELECTRICAL						
Voltage	120 or 230V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC
Frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Max. current	0.4 Amp	0.4 Amp	0.5 Amp	0.5 Amp	0.85 Amp	1.2 Amp
Max. power consumption	22 Watts	36 Watts	50 Watts	50 Watts	83 Watts	130 Watts
Lamp power	14 Watts	25 Watts	40 Watts	40 Watts	70 Watts	110 Watts
DIMENSIONS						
Chamber	15.5" x 2.5" 39 x 6.5cm	14.5" x 4" 37 x 10cm	20.5" x 4" 52 x 10cm	20.5" x 4" 52 x 10cm	30" x 4" 76 x 10cm	44.25" x 4" 112.5 x 10cm
Power supply	2.8" x 3.3" 7 x 8cm	8.5" x 6" 22 x 15cm	8.5" x 6" 22 x 15cm	8.5" x 6" 22 x 15cm	8.5" x 6" 22 x 15cm	8.5" x 6" 22 x 15cm

** Flow rates are shown at 85% UVT.*

WARRANTY

The TrojanUVMax™ comes with a full, non-prorated three year warranty against manufacturer's defects on the power supply and all electrical components; a ten year guarantee on the UV chamber; and a one year warranty on lamps and sensors. See full warranty at www.viqua.com for a complete set of terms.

General (All Models)	
Operating Parameters	
Maximum operating pressure	125 PSI (862 kPa)
Maximum ambient air temperature	122 ºF (50ºC)
Minimum ambient air temperature	32ºF (0ºC)
Maximum hardness	120 ppm (7 grains per gallon)
Maximum iron	0.3 ppm
Minimum UVT	75%
Installation	Vertical or horizontal *

** Systems with sensors must be installed vertically.*

VIQUA™

A TROJAN TECHNOLOGIES COMPANY

425 Clair Road West Guelph, Ontario, Canada N1L 1R1
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kiwa ISO 9001 QUALITY

Appendix C
MSDS Sheet - Calcium chloride

PANTHER INDUSTRIES INC.
BOX 698, DAVIDSON, SASK., CANADA S0G 1A0
PHONE: (306)567-2814 FAX: (306)567-2888

PRODUCT DATA

PRODUCT: Calcium Chloride High Test Fines

ITEM	%	METHOD
Calcium Chloride, min.	94.0	ASTM E449-84
Alkali Chlorides, max.	4.9	ASTM E449-84
Total magnesium, as MgCl,max.	0.4	ASTM E449-84
Heavy Meatal as Pb, max.	0.005	13964
Calcium Hydroxide, max.	0.20	ASTM E449-84
Sulphate (calculated as SO_4), max.	0.20	13964
Calcium Carbonate	0.20	13964
Iron, max	0.005	LDG-AM-82-73
Other Impurities, not including H_2O, max.	0.98	

SIEVE ANALYSIS
Based on STD TYLER MESH

ITEM	%
Passing #10 sieve	99
Passing #20 sieve	45
Passing #35 sieve	20
Bulk density	75 lbs/ft^3

MSDS # CALCIUM CHLORIDE-94%

PRODUCT INFORMATION

CHEMICAL NAME: Calcium Chloride

SYNONYM(S): High Test Fines, High Test Powder, High Test Beads,

CHEMICAL FAMILY: Inorganic salt

Product use: Calcium chloride is used to dehydrate natural gas with high sulfur content, gas from remote or offshore wells, or from wells with low flow rates.

MOLECULAR FORMULA: $CaCl_2$

SHIPPING NAME: Calcium Chloride

PIN - UN NUMBER: Not controlled

WHMIS: D2B

MANUFACTURER: The Dow Chemical Company Ltd.
P.O box 1012
Sarnia, Ontario
N7T 7K7
DOW Emergency Number: 780-998-8282 (Ft Saskatchewan, Alberta)
519-339-3711 (Sarnia, Ontario)
450-652-1000 (Varennes, Quebec)

SUPPLIER: Panther Industries Inc.
Box 628
Davidson, Sask. S0G 1A0

EMERGENCY TELEPHONE NUMBER: (306)567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	WEIGHT %	C.A.S. REGISTRY NUMBER:
Calcium Chloride	94-97%	10043-52-4

OTHER INGREDIENTS

INGREDIENTS:	WEIGHT%	C.A.S. REGISTRY NUMBER:
Strontium Chloride	0-1%	10476-85-4
Sodium Chloride	1-2%	07647-14-5
Potassium Chloride	2-3%	07447-40-7
Water		07732-18-5

PHYSICAL DATA

PHYSICAL STATE: Solid.

PH: data to indicate the product is basic

ODOUR AND APPEARANCE: Odourless white to off white pellets.

ODOUR THRESHOLD: Not applicable

VAPOUR PRESSURE: <0.005 mmHg, at 20 ^{o}C.

VAPOUR DENSITY: Not applicable

BOILING POINT: 1670^{o}C

SOLUBILITY IN WATER: Very soluble

MELTING POINT: Approx. 772^{o}C, 1424^{o}F

SPECIFIC GRAVITY: 2.2

FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Not applicable.

MEANS OF EXTINGUISHING: This material does not burn. If exposed to fire from another

source, use suitable extinguishing agent for that fire.

FLASH POINT: Not applicable.

UPPER FLAMMABLE LIMIT: Not applicable.

LOWER FLAMMABLE LIMIT: Not applicable.

SPECIAL FIRE FIGHTING PROCEDURES: Keep people away. Isolate fire area and deny unnecessary entry. Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting clothing (included fire fighting helmet, coat, pants, boots, and gloves.)

EXPLOSION HAZARDS: **Hydrogen chloride is a hazardous combustion product at temperatures in excess of 1600 degrees Celsius.**

REACTIVITY DATA

STABILITY: Stable. Hygroscopic.

HAZARDOUS POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: Does no decompose.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY: Corrosive to some metals. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc or sodium. Avoid contact with sulfuric acid. Heat is generated when mixed with water. Spattering or boiling can occur.

HEALTH HAZARD DATA

INHALATION: Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract. **Calcium Chloride has an LD_{50} of 1940 mg/kg oral mouse**

SKIN CONTACT: Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp or if material is confined to skin. May cause more severe response is skin is abraded (scratched or cut). When dissolving, the heat produced may cause more intense effects as well as thermal burns. Not classified as corrosive according to DOT. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

EYE CONTACT: Dusts may cause severe irritation with corneal injury, pellets may cause slight eye irritation. Effects may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration.

Toxicological data: Effects of chronic exposure: These effects are; Repeated exposure may cause irritation or even a burn to the skin, eyes and nasal cavity.

IRRITANCY: Slight.

MUTAGENICITY: Negative

SENSITIZATION TO PRODUCT: Not available.

REPRODUCTIVE TOXICITY: Not available.

ANIMAL TOXICITY DATA:

LD50 - 967-1668 mg/kg oral, rat.
>5000 mg/kg skin, rabbits

FIRST AID PROCEDURES

INHALATION: Remove to fresh air if effects occur. Consult a physician.

EYE CONTACT: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN CONTACT: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Give 2-4 glasses of water or milk and don’t induce vomiting unless directed to do so by medical personnel.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: In dusty atmospheres, use an approved dust respirator. Atmospheric levels should be maintained below the exposure guideline.

EXPOSURE GUIDELINES: Calcium chloride: Dow IHG is 10 mg/m3
Sodium chloride: Dow IHG is 10 mg/m3
Potassium chloride: Dow IHG is 10 mg/m3

EYE AND FACE PROTECTION: Use safety glasses. For dusty operations or when handling solutions of the material, wear chemical goggles.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

STORAGE REQUIREMENTS: Keep containers tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

HANDLING: Heat developed during diluting or dissolving is very high. Use cool water when diluting or dissolving (temperature less than 80F, 27C)

ENVIRONMENTAL PROTECTION DATA

PROCEDURES TO BE FOLLOWED IN CASE OF A LEAK OR SPILL: Contain spill. Shovel and sweep up spill and place in a suitable and properly labelled container. Flush residue with large amounts of water. Keep contaminated water from entering sewers and water courses.

WASTE DISPOSAL: All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations.

AQUATIC TOXICITY: Material is practically non-toxic to aquatic organisms on an acute bases (LC50/EC50 > 100 mg/L in most sensitive species).

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Department
Panther Industries Inc.
Davidson, Sask.
Ph. (306) 567-2814

DATE PREPARED/REVISED: Feb 17 2004

DATE PRINTED: Feb 17 2004

REFERENCES:
1. Patty's Industrial Hygiene and Toxicology 3rd Ed.1981 by Clayton & Clayton John Wiley & Sons, New York.
2. Manufacturer's MSDS.